

CLAIMS

1. A rescue device that marks a location, comprising
a deflated kite-type balloon having a self-sealing inflation port,
an inflator valve in communication with the self-sealing inflation
port of the deflated balloon, and
a container which holds a pressurized, lighter than air gas, said
container having an outlet port in communication with the inflator
valve, said inflator valve upon being opened causing the lighter than
air gas to enter the deflated balloon to inflate the balloon.
2. The rescue device of Claim 1 where balloon comprises a central
hollow body with opposed sides, said hollow body being filled with the
gas upon inflation of the balloon, and a pair of sail elements, one sail
element attached to one opposed side and the other element attached
to the other opposed side.
3. The rescue device of Claim 1 where balloon has a substantially
triangular configuration.
4. The rescue device of Claim 1 where balloon includes a tail.
5. The rescue device of Claim 1 where the hollow body has a central
longitudinal axis and the balloon is substantially symmetrical about
said axis.
6. The rescue device of Claim 1 where balloon comprises
a hollow body with a head end, a tail end, and opposed
outwardly extending arms, said hollow body being filled with the gas

1 upon inflation of the balloon, and

2 a pair of sail elements connected to the hollow body, one sail
3 element extending between one arm and the tail end and the other sail
4 element extending between the other arm and the tail end.

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6 7. The rescue device of Claim 6 where the hollow body has a central
7 longitudinal axis extending between the head end and the tail end and
8 the balloon is substantially symmetrical about said axis.

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10 8. The rescue device of Claim 6 where each arm has an outer end
11 and a first connector line extends between said outer ends and a
12 second connector line extends between the head end and an
13 intermediate portion of the first connector line.

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15 9. The rescue device of Claim 8 including a third line adapted to
16 secure the balloon at the location, said third line including an end
17 connected to an intermediate portion of the first connector line.

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19 10. The rescue device of Claim 9 where, with the balloon is in a
20 predetermined compact condition, a portion of the third line extends
21 outward from the compacted balloon.

22
23 11. The rescue device of Claim 6 where a tail is attached to the tail
24 end of the hollow body and the self-sealing inflation port is near said
25 tail end.

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28 12. The rescue device of Claim 6 where a tail is attached to the tail
29 end of the hollow body and the self-sealing inflation port is near the

1 head end.

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3 13. The rescue device of Claim 6 where the sail elements each have a
4 substantially triangular configuration.

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6 14. The rescue device of Claim 1 including a line adapted to secure
7 the balloon at the location and a housing with the deflated balloon in
8 said housing in a predetermined compact condition.

9
10 15. The rescue device of Claim 14 where
11 said balloon has opposed faces, opposed lateral sides, opposed
12 ends, and a longitudinal axis extending between said opposed ends,
13 said inflation port being nearby one of said ends of the balloon,
14 each of said lateral sides being rolled inward against one of said
15 faces and towards the longitudinal axis so that said balloon is a
16 partially rolled balloon, which is then rolled inward from the end
17 opposed to the inflation port, towards the inflation port, into said
18 predetermined compact condition.

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20 16. The rescue device of Claim 15 including a detachable cover
21 member closing an open end of the housing and a valve actuator
22 connected to the cover member so that, upon removal of the cover
23 member from the open end of the housing, the valve actuator opens
24 the inflator valve causing the lighter than air gas to enter the
25 compacted balloon to inflate the balloon, which exits the open end of
26 the housing solely under the influence of a pressurized gas.

27
28 17. The rescue device of Claim 16 where the housing encloses the
29 container, the inflator valve, and the compacted balloon.

1 18. A rescue device that marks a location, comprising
2 a housing having an open end,
3 a deflated kite-type balloon having a self-sealing inflation port,
4 said balloon being in a predetermined compact condition and
5 positioned within the housing,
6 said balloon comprising
7 a hollow body that is filled with the gas upon inflation
8 of the balloon,
9 a sail element attached to the body, and
10 a tail attached to an end of the balloon,
11 an inflator valve in communication with the inflation port of the
12 deflated balloon,
13 a container which holds a pressurized, lighter than air gas, said
14 container having an outlet port in communication with the inflator
15 valve, said inflator valve upon being opened causing the lighter than
16 air gas to enter the deflated balloon to inflate the balloon.

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18 19. The rescue device of Claim 18 including a secured line that
19 secures the inflated balloon to the device.

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21 20. A rescue device that marks a location, comprising
22 a housing having an open end,
23 a deflated kite-type balloon in the housing and having a self-
24 sealing inflation port,
25 said balloon comprising
26 a hollow body with a head end, a tail end, and
27 opposed outwardly extending arms each having an outer
28 end, said hollow body being filled with the gas upon
29 inflation of the balloon,

1 a pair of sail elements connected to the hollow body,
2 one sail element extending between one arm and the tail
3 end and the other sail element extending between the other
4 arm and the tail end, and
5 an elongated tail connected to the tail end,
6 an inflator valve in communication with the inflation port of the
7 deflated balloon,
8 a container which holds a pressurized, lighter than air gas, said
9 container having an outlet port in communication with the inflator
10 valve, said inflator valve upon being opened causing the lighter than
11 air gas to enter the deflated balloon to inflate the balloon,
12 a secured line that secures the inflated balloon to the device, and
13 a first connector line that extends between the outer ends of the
14 arms,
15 said secured line including an end connected to an intermediate
16 portion of the first connector line.

17
18 21. The rescue device of Claim 20 including a second connector line
19 that extends between the head end and an intermediate portion of the
20 first connector line.

21
22 22. The rescue device of Claim 20 where the hollow body has a
23 central longitudinal axis extending between the head end and the tail
24 end and the balloon is substantially symmetrical about said axis.

25
26 23. The rescue device of Claim 22 where balloon has a substantially
27 triangular configuration.

1 24. The rescue device of Claim 20 where the deflated balloon is in a
2 predetermined compacted condition to fit within the housing.

3
4 25. The rescue device of Claim 24 where said compacted balloon
5 includes

6 a longitudinal axis extending between the head end and tail end
7 and has opposed faces, opposed lateral sides and the inflation port is
8 nearby one of said ends,

9 said tail is folded inward lengthwise towards said head end
10 substantially along the longitudinal axis and each of said lateral sides is
11 rolled inward against one of said faces and towards the longitudinal
12 axis so that said balloon is a partially rolled balloon, which is then
13 rolled inward from the end opposite the inflation port towards said one
14 end including the inflation port, into said predetermined compact
15 condition,

16 a portion of the secured line that extends from the end connected
17 to the intermediate portion of the first connector line is positioned to
18 lie substantially along or nearby the longitudinal axis and to extend
19 outward from the compacted balloon from said one end including the
20 inflation port.

21
22 26. The rescue device of Claim 25 where the tail has a length that
23 when folded inward does not intersect with the connector line.

24
25 27. The rescue device of Claim 20 including a detachable cover
26 member closing the open end of the housing and a valve actuator
27 connected to the cover member so that, upon removal of the cover
28 member from the housing, the valve actuator opens the inflator valve
29 causing the lighter than air gas to enter the compacted balloon to

1 inflate the balloon, which exits the open end of the housing solely
2 under the influence of a pressurized gas.

3
4 28. The rescue device of Claim 27 where the housing encloses the
5 container, the inflator valve, and the compacted balloon.

6
7 29. A rescue device that marks a location, comprising
8 a housing having an open end,
9 a deflated kite-type balloon having a self-sealing inflation port,
10 said balloon positioned within said housing,

11 said balloon comprising

12 a hollow inflatable body having a substantially cross
13 configuration with a pair of opposed arms intersecting a
14 beam element, said arms having outer ends, and

15 a pair of sail elements, each sail element connected to
16 one arm and to a side of the beam element, and

17 an elongated tail connected to the tail end,

18 an inflator valve in communication with the inflation port of the
19 deflated balloon,

20 a container which holds a pressurized, lighter than air gas, said
21 container having an outlet port in communication with the inflator
22 valve, said inflator valve upon being opened causing the lighter than
23 air gas to enter the deflated balloon to inflate the balloon,

24 a secured line that secures the inflated balloon to the device, and

25 a connector line that extends between outer ends of the arms,

26 said secured line including an end connected to an intermediate
27 portion of the connector line.

1 30. A kite-type balloon comprising
2 a hollow body adapted to be filled with the gas upon inflation of
3 the balloon, and
4 a sail element connected to the hollow body.
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6 31. The kite-type balloon of Claim 30 where said balloon has a
7 substantially triangular configuration.
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9 32. The kite-type balloon of Claim 30 where balloon includes a tail.
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11 33. The kite-type balloon of Claim 30 where at least a portion of the
12 balloon is radar reflective.
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14 34. The kite-type balloon of Claim 30 where body has opposed lateral
15 sides and a sail element is attached to each lateral side.
16

17 35. The kite-type balloon of Claim 34 where the hollow body has a
18 central longitudinal axis and the balloon is substantially symmetrical
19 about said axis.
20

21 36. A kite-type balloon comprising
22 a hollow body with a head end, a tail end, and opposed
23 outwardly extending arms, said hollow body adapted to be filled with
24 the gas upon inflation of the balloon, and
25 a pair of sail elements connected to the hollow body, one sail
26 element extending between one arm and the tail end and the other sail
27 element extending between the other arm and the tail end.
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1 37. The kite-type balloon of Claim 36 including a tail attached to the
2 tail end of the hollow body and the hollow body has a central
3 longitudinal axis extending between the head end and the tail end and
4 the balloon is substantially symmetrical about said axis.

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6 38. The kite-type balloon of Claim 36 where at least a portion of the
7 balloon is radar reflective.

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9 39. The kite-type balloon of Claim 36 where said balloon has a
10 substantially triangular configuration.

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12 40. The kite-type balloon of Claim 36 where the sail elements each
13 have a substantially triangular configuration.

14
15 41. A kite-type balloon comprising
16 a hollow inflatable body having a substantially cross
17 configuration including a pair of opposed arms intersecting a beam
18 element, and
19 a pair of sail elements, each sail element connected to one arm
20 and to a side of the beam element.

21
22 42. The kite-type balloon of Claim 41 where each sail element has a
23 substantially triangular configuration.

24
25 43. The kite-type balloon of Claim 41 where the beam element has a
26 longitudinal axis and the balloon is substantially symmetrical about
27 said axis.

1 44. The kite-type balloon of Claim 41 including a tail attached to an
2 end of the inflatable body and where each arm has an outer end and
3 the beam element has a head end and a tail end, and each sail element
4 has an outer edge tapering inward to terminate at or near the tail end.
5

6 45. The kite-type balloon of Claim 44 including
7 a first connector line that extends between the opposed outer
8 ends of the arms, and
9 a second connector line that extends between the head end and
10 an intermediate portion of the first connector line.
11

12 46. A method of marking an individual's location to facilitate rescue
13 even under windy weather conditions, comprising
14 providing

15 (a) a source of lighter than air gas,

16 (b) a deflated kite-type balloon having a self-sealing
17 inflation port adapted to be placed in communication with
18 the source of lighter than air gas to inflate the kite-type
19 balloon, and

20 (c) a line adapted to secure the balloon at the location, and

21 when rescue is desired, inflating the deflated kite-type balloon
22 with said gas from said source and releasing the inflated kite-type
23 balloon with the line secured to the balloon and at or near said
24 location.
25

26 47. The method of Claim 46 where at least a portion of the kite-type
27 balloon is radar reflective.
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1 48. The method of Claim 46 where the kite-type balloon comprises
2 a hollow body adapted to be filled with the gas upon inflation of
3 the balloon, and
4 a sail element connected to the hollow body.
5

6 49. The method of Claim 46 where the kite-type balloon comprises
7 a hollow body with a head end, a tail end, and opposed
8 outwardly extending arms, said hollow body adapted to be filled with
9 the gas upon inflation of the balloon, and
10 a pair of sail elements connected to the hollow body, one sail
11 element extending between one arm and the tail end and the other sail
12 element extending between the other arm and the tail end.
13

14 50. The method of Claim 46 where the kite-type balloon comprises
15 a hollow inflatable body having a substantially cross
16 configuration including a pair of opposed arms intersecting a beam
17 element, and
18 a pair of sail elements, each sail element connected to one arm
19 and to a side of the beam element.
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